CLAIMS

WHAT IS CLAIMED IS:

1. A method for controlling transmission power of signals transmitted between first and second radio communication devices, comprising:

estimating a quality of signals transmitted from the first radio communication device to the second radio communication device during a first power control group period (T_1);

determining at least one power control bit based on the estimated signal quality;

transmitting the at least one power control bit from the second radio communication device to the first radio communication device during the first power control group period(T_1);

receiving the at least one power control bit at the first radio communication device; and

modifying transmission power of signals transmitted from the first radio communication device to the second radio communication device based on the at least one power control bit at commencement of a second power control group period (T_2).

2. The method of claim 1, wherein the quality of the signals is estimated over a first time period (t_{est1}).

3. The method of claim 2, wherein the first time period (t_{est1}) is less than the first power control group period (T_1).

4. The method of claim 3, wherein the first time period $t_{est1} \leq T_1 - \Delta t$, where Δt comprises at least a reverse link propagation delay.

5. The method of claim 1, wherein a first power control group associated with the first power control group period (T_1) comprises a number of symbols.

6. A method of facilitating forward link power control, comprising:

estimating a propagation channel Doppler frequency;

selecting either a first process or a second process based on the estimated Doppler frequency; and

determining a power control bit for controlling forward link power using the selected process.

7. The method of claim 6, wherein the first process comprises:

estimating signal quality of a forward link during a first power control group, the first power control group associated with a first power control group period (T_1),

wherein the signal quality of the forward link is estimated over a first time period (t_{est1}) and wherein the first time period (t_{est1}) is less than T_1; and

determining the power control bit based on the estimated signal quality.

8. The method of claim 7, wherein the first time period $t_{est1} \leq T_1 - \Delta t$, where Δt comprises at least a reverse link propagation delay.

9. The method of claim 6, wherein the second process comprises:

estimating signal quality of a forward link during a first power control group, the first power control group associated with a first power control group period (T_1),

wherein the signal quality of the forward link is estimated over a first time period (t_{est1}) and wherein t_{est1} is substantially equal to T_1; and

determining the power control bit based on the estimated signal quality.

10. A method of facilitating forward link power control, comprising:

estimating signal quality of a forward link during a first power control group period (T_1);

determining at least one power control bit based on the estimated signal quality; and

transmitting the at least one power control bit on a reverse link during the first power control group period.

11. The method of claim 10, wherein the signal quality of the forward link is estimated over a first time period (t_{est1}).

12. The method of claim 11, wherein the first time period (t_{est1}) is less than T_1.

13. The method of claim 12, wherein the first time period $t_{est1} \leq T_1 - \Delta t$, where Δt comprises at least a reverse link propagation delay.

14. The method of claim 10, wherein a first power control group associated with the first power control group period comprises a number of symbols.

15. A communication device, comprising:

a signal quality estimation device that estimates signal quality of a forward link using a first power control group transmitted during a first power control group period (T_1); and

a processing unit that:

determines at least one power control bit based on the estimated signal quality, and

transmits the at least one power control bit on a reverse link during the first power control group period (T_1).

16. The communication device of claim 15, wherein the signal quality of the forward link is estimated over a first time period (t_{est1}).

17. The communication device of claim 16, wherein t_{est1} is less than T_1.

18. The communication device of claim 17, wherein $t_{est1} \leq T_1 - \Delta t$, where Δt comprises at least a reverse link propagation delay.

19. The communication device of claim 15, wherein the first power control group comprises a number of symbols.

20. A computer-readable medium containing instructions for controlling at least one processing unit to perform a method of facilitating forward link power control, the method comprising:

initiating estimation of signal quality of a forward link during a first power control group period;

determining at least one power control bit based on the estimated signal quality; and

initiating transmission of the at least one power control bit on a reverse link during the first power control group period.

21. A method of controlling forward link power, comprising:

estimating signal quality of a forward link during a first power control group period (T_1);

determining at least one power control bit based on the estimated signal quality;

transmitting the at least one power control bit on a reverse link during the first power control group period (T_1);

receiving the at least one power control bit on the reverse link; and

modifying forward link power based on the at least one power control bit at commencement of a second power control group period (T_2).

22. The method of claim 21, wherein the signal quality of the forward link is estimated over a first time period (t_{est1}).

23. The method of claim 22, wherein t_{est1} is less than T_1.

24. The method of claim 23, wherein $t_{est1} \leq T_1 - \Delta t$, where Δt comprises at least a reverse link propagation delay.

25. The method of claim 21, wherein a first power control group associated with the first power control group period comprises a number of symbols.

26. A communication system, comprising:

a mobile terminal that:

estimates signal quality of a forward link during a first power control group period (T_1),

determines at least one power control bit based on the estimated signal quality,

transmits the at least one power control bit on a reverse link during the first power control group period (T_1); and

a base station that:

receives the at least one power control bit on the reverse link, and

modifies forward link power based on the at least one power control bit at commencement of a second power control group period (T_2).

27. The communication system of claim 26, wherein the signal quality of the forward link is estimated over a first time period (t_{est1}).

28. The communication system of claim 27, wherein t_{est1} is less than T_1.

29. The communication system of claim 28, wherein $t_{est1} \leq T_1 - \Delta t$, where Δt comprises at least a reverse link propagation delay.

30. The communication system of claim 26, wherein a first power control group associated with the first power control group period comprises a number of symbols.